



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 09/473,638 | 12/28/1999 | MAQBOOLAHMED S. PATEL | 15-IS-5286 | 1250 |

7590

11/22/2002

JOHN F NETHERY
MCANDREWS HELD & MALLOY LTD
500 WEST MADISON STREET 34TH FLOOR
CHICAGO, IL 60661

EXAMINER

KIBLER, VIRGINIA M

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 11/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,638

Applicant(s)

PATEL ET AL.

Examiner

Virginia M Kibler

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/28/99 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: "in, for example, in the" should be changed to "in, for example, the" on page 6, line 15 and "additional" should be changed to "additionally" on page 6, line 24.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher et al. (4,833,625) in view of Keeler et al. (5,479,573).

Regarding claim 1, Fisher et al. ("Fisher") discloses a picture archiving and communication system (PACS) connected to an image acquisition workstation shown in Figure 1 (Col. 1, lines 29-33). Fisher discloses the image acquisition workstation receiving image data from an imaging modality (Col. 1, lines 57-68 and Col. 2, lines 1-4). Fisher also discloses an image transmission 6 that provides for transmitting data to a PACS network for storage in a database (Col. 2, lines 18-30). Fisher does not disclose storing predetermined preprocessing functions applicable to the raw image data nor applying at least one and fewer than all of the

Art Unit: 2623

preprocessing functions to the raw image data. However, Keeler et al. ("Keeler") teaches that it is known to store predetermined preprocessing functions (Col. 3, lines 8-12) applicable to the raw image data (Col. 9, lines 30-32). Keeler also teaches applying at least one and fewer than all of the preprocessing functions to the raw image (Col. 3, lines 12-18), thereby forming partially preprocessed raw image data. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified PACS system disclosed by Fisher to include a preprocessing method, as taught by Keeler, in order to improve image quality.

Regarding claim 7, the arguments analogous to those presented above for claim 1 are applicable to claim 7. Fisher discloses a processing circuit 16, an imaging modality for receiving raw image data (Col. 1, lines 57-68 and Col. 2, lines 1-4), and a software memory coupled to the processing circuit (Col. 24, lines 63-66).

Regarding claim 14, the arguments analogous to those presented above for claims 1 and 7 are applicable to claim 14. Fisher discloses a system used as a medical data network (Col. 1, lines 21-28) comprising an imaging modality (Col. 1, lines 58-59), an image acquisition workstation (Col. 1, lines 57-58), and a PACS network interfaced to the image acquisition workstation (Col. 2, lines 18-22). The PACS network comprises a networked PACS image database 4, display station 8. Fisher does not disclose a preprocessing database. However, Keeler teaches that it is known to include a preprocessing database 14 in a network (Abstract, lines 2-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the network disclosed by Fisher to include a preprocessing database, as taught by Keeler, in order to store preprocessing conditions.

4. Claims 2-6, 8-13, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher et al. (4,833,625) in view of Keeler et al. (5,479,573) in further view of Takeo et al. (6,231,246).

Regarding claim 2, Fisher and Keeler do not disclose predetermined preprocessing functions including at least one frequency preprocessing function and at least one contrast preprocessing function. However, Takeo et al. ("Takeo") teaches that it is known to use predetermined preprocessing functions including at least one sharpness or "frequency" preprocessing function and at least one gradation or "contrast" preprocessing function (Col. 2, lines 64-66). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the step of predetermining preprocessing functions disclosed by Fisher and Keeler to include frequency and contrast preprocessing functions, as taught by Takeo, in order to provide a desired quality of the image.

Regarding claims 3 and 5, the arguments analogous to those presented above for claim 2 are applicable to claims 3 and 5. Takeo discloses carrying out or "applying" the predetermined preprocessing functions (Col. 3, lines 58-60).

Regarding claim 4, Takeo discloses applying a frequency preprocessing function characterized by at least one of a RN, RE, and RT preprocessing parameter (Col. 10, lines 41-56).

Regarding claim 6, Takeo discloses applying a contrast preprocessing function characterized by at least one of a GT, GA, GC, and GS preprocessing parameter (Col. 7, lines 19-24).

Regarding claim 8, Takeo discloses selecting at least one preprocessing function based on the anatomical region (Col. 8, lines 56-67).

Regarding claims 9 and 16, the arguments analogous to those presented above for claim 2 are applicable to claims 9 and 16.

Regarding claims 10 and 17, the arguments analogous to those presented above for claim 3 are applicable to claims 10 and 17.

Regarding claims 11 and 18, the arguments analogous to those presented above for claim 4 are applicable to claims 11 and 18.

Regarding claims 12 and 19, the arguments analogous to those presented above for claim 5 are applicable to claims 12 and 19.

Regarding claims 13 and 20, the arguments analogous to those presented above for claim 6 are applicable to claims 13 and 20.

Regarding claim 15, the arguments analogous to those presented above for claim 8 are applicable to claim 15.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,424,996 to Killcommons et al. for medical network system and method for transfer of information;

U.S. Pat. No. 5,974,201 to Chang et al. for smart image system;

U.S. Pat. No. 5,740,267 to Echerer et al. for radiographic image enhancement comparison and storage requirement reduction system;

U.S. Pat. No. 6,289,115 to Takeo for medical network system; and

U.S. Pat. No. 5,655,084 to Pinsky et al. for radiological image interpretation apparatus and method.

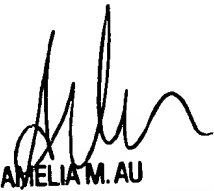
Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on M-F 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

VK
November 6, 2002


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600